

### Abstract

A cooling system for use in a work machine is provided, in which an increase in the load imposed on a fan driving circuit and occurrence of abnormal noise can be prevented without fail by means of an inexpensive arrangement at the time of switching the rotating direction of a cooling fan. To this end, the cooling system comprises: (1) a variable displacement hydraulic pump driven by the engine; (2) a forwardly and reversely rotatable hydraulic motor operated by hydraulic oil supplied from the hydraulic pump; (3) a cooling fan driven by the hydraulic motor; (4) an electromagnetic selector valve for switching the rotating direction of the hydraulic motor between a forward direction and a reverse direction; (5) controlling means for controlling switching of the electromagnetic selector valve and controlling the hydraulic pump so as to minimize the discharge oil rate of the hydraulic pump during switching of the electromagnetic selector valve.